

# SD250 Series

VARIABLE SPEED DRIVE

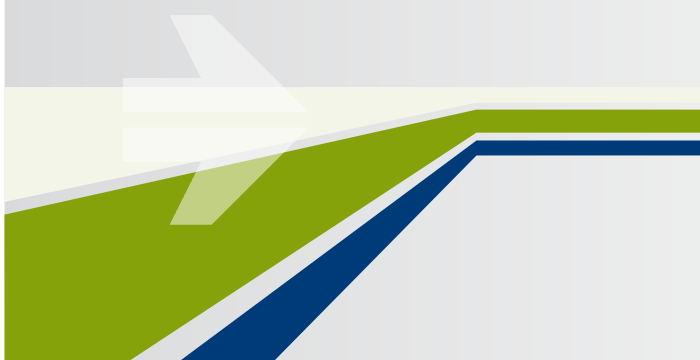
*Easy to drive*





We had always dreamt about an integral service that included, commissioning support, 24 hour technical assistance, rapid workshop response with less than 1 day repair or replacement commitment. Three year warranty, immediate delivery, customized training and professional application engineering.

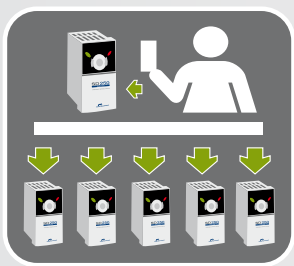
A dream  
a promise,  
the commitment.



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- 01** Introduction to the SD250
- 02** Compact and flexible for multiple applications
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Easy to drive >>>



### SMART

Memory display to copy and paste stored data. The remote keypad allows programming as many drive as necessary, just 'Plug & Play'.

### COMPACT

The compact size, much smaller than the competitors, achieves a better cost-efficiency ratio and increases the application range.

WARRANTY  
**3**  
YEARS  
for the whole series



### EASY OPERATION

Due to the intuitive programming keypad, parameter setting is simple and easy.



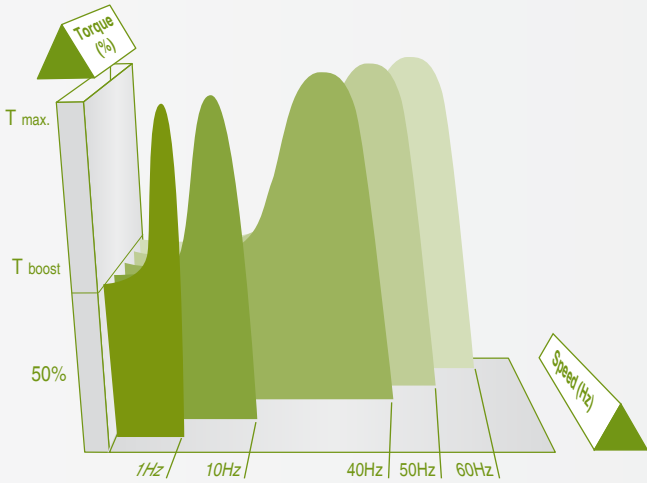
### TECHNICAL SUPPORT

Our technical department will provide personal technical support for the commissioning. There will always be somebody supporting you.



# 01

## >introduction to the SD250



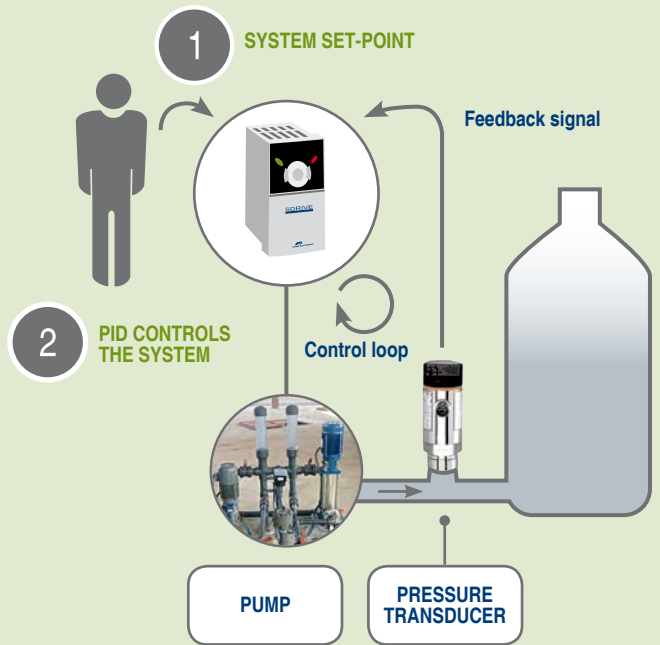
### OPEN LOOP VECTOR CONTROL (SENSORLESS)

The open loop vector control provides excellent control as well as high torque.

The SD250 series offers a competitive solution within everybody reach, available in models up to 22kW, its great motor control and compact size make it ideal for any application.

### BUILT-IN PID CONTROL

This function enables the control of a wide variety of system variables: flow, pressure, temperature... without any additional external controller.



### CONFORMAL COATING

All the electronic are conformally coated increasing reliability.

### COMPLIES WITH INTERNATIONAL STANDARDS: CE, UL, cUL, cTick





The **SD250** has been designed to suit a vast range of industrial applications. Install, program and run in an instant. A drive of small dimensions and big features.



- Packing and palletizers
- Industrial mills
- Packaging machines
- Bottling machines
- Textile machines
- Industrial washing machines
- Food industry
- Materials handling and conveyors
- Paint mixers...



**02**

> **SD250**

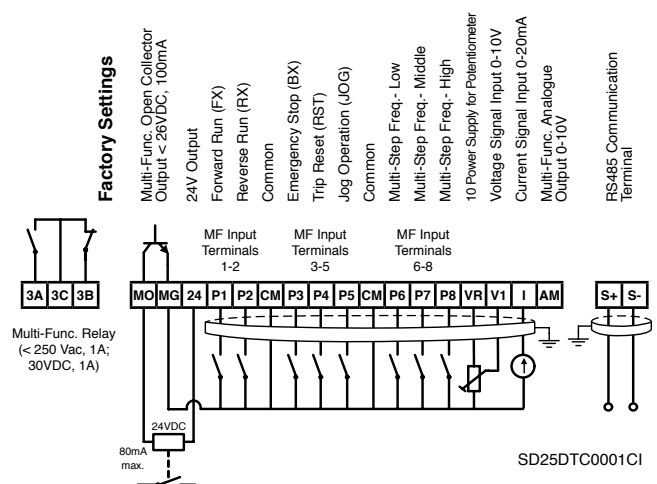
compact and flexible  
for multiple applications



# 03 SD250 > technical specifications

<b>INPUT</b>	Power supply	200 to 230Vac (-15% to +10%) (3-Phase) 380 to 480Vac (-15% to +10%) (3-Phase)	
	Input frequency	50 - 60Hz ±5%	
	Input power factor	> 0,98 (of fundamental)	
	Momentary power loss	> 15ms	
<b>OUTPUT</b>	Motor output voltage	0Vac to V. Input	
	Overload capacity	150% for 60 sec.	
	Frequency ratings	0,01 Hz to ± 400Hz	
	Efficiency (at full load)	> 98%	
	Control method	Space vector technology	
	Carrier frequency	Maximum 15kHz	
<b>ENVIRONMENTAL CONDITIONS</b>	Degree of protection	IP20	
	Ambient temperature	-10°C to +50°C	
	Storage temperature	-20°C to +65°C	
	Ambient humidity	< 90%, non-condensing	
	Altitude	1000m	
	Altitude de-rating	(>1000m) -1% per 100m; maximum 3000m	
	Vibration	5,9m/sec <sup>2</sup> (=0,6g)	
	Installation site	Consult Getting Started Manual SD250	
<b>CONTROL</b>	Control method	V/Hz control, Vector control (Sensorless)	
	Analogue inputs	1 input 0-10Vdc or ±10Vdc, 1 input 0-20mA or 4-20mA	
	Digital inputs	8 programmable inputs	
	Analogue outputs	1 output 0 - 10Vdc	
	Relay outputs	1 change over relay (250Vac, 1A; 30Vdc, 1A) 1 open collector transistor programmable (26Vdc, 100mA)	
	Remote mount display unit	Control Panel and Digital programming with independent memory (optional)	
	Communications port	RS485 ModBus RTU protocol (DeviceNet and Profibus optional)	
	Dynamic Braking Unit	Built in	
	International standards	CE, UL, cUL, cTick	
	<b>MOTOR PROTECTIONS</b>	Motor thermal model	
		Ground fault	
Overload warning			
Motor stall warning			
Dynamic brake resistor thermal model			
Torque limit and torque limit time (adjustable)			
Low voltage			
20% dynamic brake duty cycle			
Input/Output phase loss			
Phases current imbalance			
Stall motor protection			
Short-circuit			
Over voltage			
Mean torque 100% of braking during 5 sec			
Communications fault			
<b>SD250 SETTINGS</b>		Thermal model (software)	
		IGBT overload	
	Over-voltage fault		
	Hardware fault		
	Heatsink over-temperature		
	Output current limit		
	Regeneration limit		
	Cooling fan fault		
	Pressure group function		
	Double acceleration ramp		
Second motor setting			

## CONTROL WIRING



Note: The MO output has been designed for a maximum current of 80mA.

# 04 SD250

> standard ratings  
and dimensions

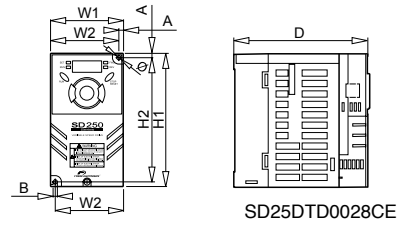
## STANDARD RATINGS

FRAME	CODE	I(A) Rated	kW	CV	V
1	SD25203	3	0,4	0,5	200-230 III
	SD25205	5	0,75	1	200-230 III
	SD25301	1,25	0,4	0,5	380-480 III
	SD25302	2,5	0,75	1	380-480 III
2	SD25208	8	1,5	2	200-230 III
	SD25304	4	1,5	2	380-480 III
3	SD25212	12	2,2	3	200-230 III
	SD25217	17	4	5,4	200-230 III
	SD25306	6	2,2	3	380-480 III
	SD25309	9	4	5,4	380-480 III
4	SD25224	24	5,5	7,5	200-230 III
	SD25232	32	7,5	10	200-230 III
	SD25312	12	5,5	7,5	380-480 III
	SD25316	16	7,5	10	380-480 III
5	SD25246	46	11	15	200-230 III
	SD25260	60	15	20	200-230 III
	SD25324	24	11	15	380-480 III
	SD25330	30	15	20	380-480 III
6	SD25274	74	18,5	25	200-230 III
	SD25288	88	22	30	200-230 III
	SD25339	39	18,5	25	380-480 III
	SD25345	45	22	30	380-480 III

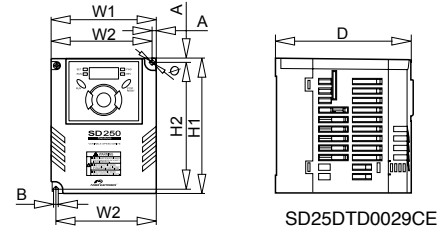
## FRAMES

FRAME	REFERENCE	DIMENSIONS (mm)							
		H1	H2	W1	W2	D	Ø	A	B
1	SD25203	128	119	70	65,5	130	4,0	4,5	4,0
	SD25205	128	119	70	65,5	130	4,0	4,5	4,0
	SD25301	128	119	70	65,5	130	4,0	4,5	4,0
	SD25302	128	119	70	65,5	130	4,0	4,5	4,0
2	SD25208	128	120	100	95,5	130	4,5	4,5	4,5
	SD25304	128	120	100	95,5	130	4,5	4,5	4,5
3	SD25212	128	120,5	140	132	155	4,5	4,5	4,5
	SD25217	128	120,5	140	132	155	4,5	4,5	4,5
	SD25306	128	120,5	140	132	155	4,5	4,5	4,5
	SD25309	128	120,5	140	132	155	4,5	4,5	4,5
4	SD25224	220	210	180	170	170	4,5	5,0	4,5
	SD25232	220	210	180	170	170	4,5	5,0	4,5
	SD25312	220	210	180	170	170	4,5	5,0	4,5
	SD25316	220	210	180	170	170	4,5	5,0	4,5
5	SD25246	320	304	235	219	189,5	7,0	8,0	7,0
	SD25260	320	304	235	219	189,5	7,0	8,0	7,0
	SD25324	320	304	235	219	189,5	7,0	8,0	7,0
	SD25330	320	304	235	219	189,5	7,0	8,0	7,0
6	SD25274	410	392	260	240	208,5	10,0	10,0	10,0
	SD25288	410	392	260	240	208,5	10,0	10,0	10,0
	SD25339	410	392	260	240	208,5	10,0	10,0	10,0
	SD25345	410	392	260	240	208,5	10,0	10,0	10,0

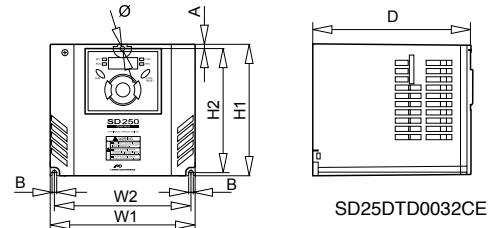
### FRAME 1: SD25203 | SD25205 | SD25301 | SD25302



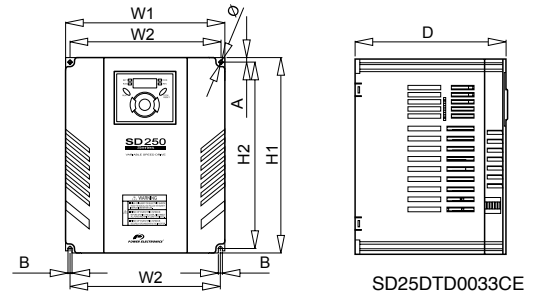
### FRAME 2: SD25208 | SD25304



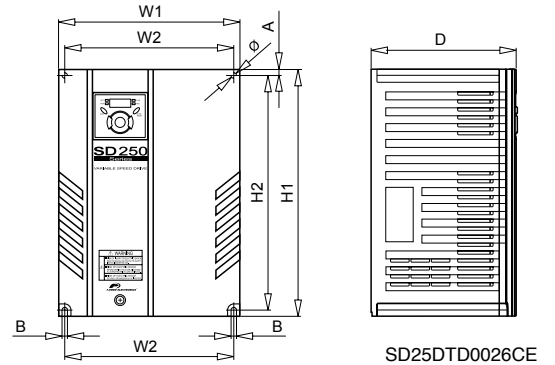
### FRAME 3: SD25212 | SD25217 | SD25306 | SD25309



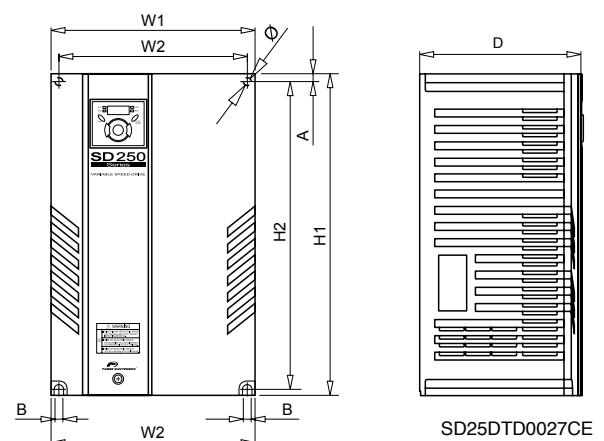
### FRAME 4: SD25224 | SD25232 | SD25312 | SD25316



### FRAME 5: SD25246 | SD25260 | SD25324 | SD25330



### FRAME 6: SD25274 | SD25288 | SD25339 | SD25345



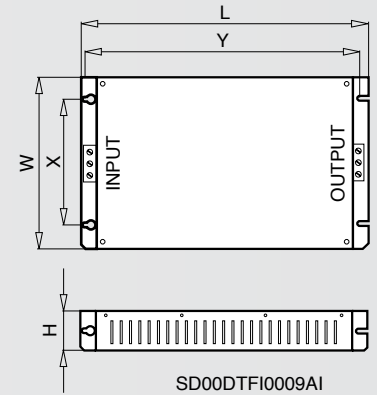


# 05 SD250

## > accessories

### RFI FILTERS

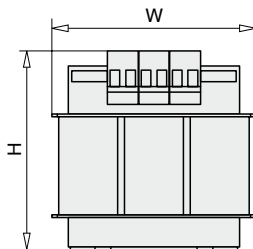
REFERENCE	CURRENT I(A)	LEAKAGE CURRENT I(mA)		VOLTAGE (V)	DIMENSIONS (mm)					APPLICABLE DRIVES
		Rated	Maximum		L	Y	W	X	H	
FESD25302	5	0,5	26	250	175	161	76,5	53	40	SD25203, SD25205
				400						SD25301, SD25302
FESD25208	12	0,5	26	250	176,5	162,5	107,5	84	40	SD25208
FESD25304	6	0,5	26	400	176,5	162,5	107,5	84	40	SD25304
FESD25217	20	0,5	26	250	176,5	162,5	147,5	124	45	SD25212, SD25217
FESD25309	11	0,5	26	400	176,5	162,5	147,5	124	45	SD25306, SD25309
FESD25232	50	0,5	26	250	270	252	189,5	162	60	SD25224, SD25232
FESD25316	30	0,5	26	400	270	252	189,5	162	60	SD25312, SD25316
FESD25260	65	3,2	34	480	418	398	255	177	65	SD25246, SD25260
FESD25330	35	3,2	34	480	418	398	255	177	65	SD25324, SD25330
FESD25288	90	3,2	34	480	506	486	280	200	65	SD25274, SD25288
FESD25345	45	3,2	34	480	506	486	280	200	65	SD25339, SD25345



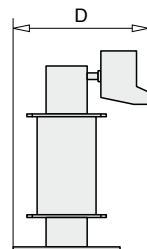
### INPUT HARMONIC FILTERS

REFERENCE	CURRENT I(A)	VOLTAGE (V)	DIMENSIONS (mm)			APPLICABLE DRIVES
			H	W	D	
FHSD4004	4	400	230	170	120	SD25301, SD25302, SD25304
FHSD4008	8	400	230	170	120	SD25306
FHSD4016	16	400	230	170	120	SD25309, SD25312, SD25316
FHSD4024	24	400	320	140	100	SD25324
FHSD4030	30	400	320	140	100	SD25330
FHSD4045	45	400	320	230	100	SD25339, SD25345

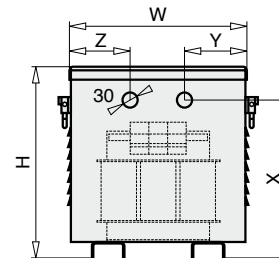
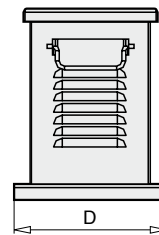
#### MODEL 1 (IP00)



#### MODEL 2 (IP23)



SD00DTFI0007BE



SD00DTFI0008BE

### OUTPUT dV/dt FILTERS

MODEL	REFERENCE	CURRENT I(A)	DIMENSIONS (mm)						APPLICABLE DRIVES
			H	W	D	X	Y	Z	
1 (IP00)	FSDVDT-030	30	150	80	135	-	-	-	SD25203, SD25205, SD25208, SD25212 SD25217, SD25224, SD25232, SD25301 SD25302, SD25304, SD25306, SD25309 SD25312, SD25316, SD25324, SD25330
	FSDVDT-050	50	150	95	135	-	-	-	SD25246, SD25339, SD25345
	FSDVDT-070	70	150	95	135	-	-	-	SD25260
	FSDVDT-100	100	180	85	160	-	-	-	SD25274, SD25288
	FSDVDT-030-23	30	220	200	215	195	85	85	SD25203, SD25205, SD25208, SD25212 SD25217, SD25224, SD25232, SD25301 SD25302, SD25304, SD25306, SD25309 SD25312, SD25316, SD25324, SD25330
2 (IP23)	FSDVDT-050-23	50	220	200	215	195	85	85	SD25246, SD25339, SD25345
	FSDVDT-070-23	70	220	200	215	195	85	85	SD25260
	FSDVDT-100-23	100	220	200	215	195	85	85	SD25274, SD25288

Note: For large cable lengths between the drive and motor, contact with Technical Department from Power Electronics.



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